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Bedding, Cleavage, and Minor Fold Relations in Vicinity of Brownington Syncline and Willoughby Arch; Monroe Line

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TRIP D-2

Bedding, cleavage, and minor fold relations in vicinity of Brownington syncline and Willoughby arch; Monroe Line

Sunday, October 15, 1961, 8:00 A.M.

Leave in private cars headed east on State Street in front of State Capitol

Leaders: J.G. Dennis and Ballard Ebbett

- 0.0 Montpelier. East on U.S. Rt. 2.
- 5.9 East Montpelier. North on Vt. Rt. 14.
- 20.3 STOP 1 - 0.3 miles north of Woodbury. Park on left side of road near old house nearly hidden by thick growth. Exposure of Waits River fm. which shows relations between bedding and S_1 and S_2 cleavage. One S_2 fold near a large granite dike.
- 25.5 Hardwick Village.
- 25.8 STOP 2 - Through Hardwick Village, left at Hardwick Inn, left just beyond State Liquor Store, left at next fork, left at stop sign - down steep grade. Park in front of Suburban Gas Dealer office. Exposure of Waits River formation in bed of Lamoille River shows relations between bedding and S_1 and S_2 cleavages and folds. Excellent example of disharmonic folding.
- 26.1 Return to Hardwick Inn. East on Vt. Rt. 15.
- 28.4 Left onto Vt. Rt. 16.
- 32.4 STOP 3 - Park on right side of road. Exposure of Waits River formation which shows folds and cleavage near crest of a moderately plunging large minor fold.
- 35.5 Exposure of Waits River formation which clearly shows strike and dip of bedding.
- 39.1 Near speed zone signs for Barton Village, left onto road across concrete bridge.
- 39.7 STOP 4 - Pass Orleans County Fair Grounds. Park just beyond concrete bridge over Roaring Brook. Cross Roaring Brook on foot and go up brook along dim path for 1500 feet. Exposure of Waits River formation shows bedding, S_1 and S_2 cleavage and folds, and boudinage on spectacular glacially smoothed surface.
- 40.3 Return to Vt. Rt. 16. Left toward Barton.
- 41.2 In center of Barton, at Park Restaurant, right onto U.S. Rt. 5, left onto Vt. Rt. 16 which crosses railroad tracks.
- 43.8 At hill crest, exposure of granodiorite with inclusions of contact-metamorphosed Gile Mountain formation. Their attitude conforms with that of region.

- 48.3 North shore of Lake Willoughby, right onto Vt. Rt. 5-A.
- 51.9 STOP 5 - East shore of Lake Willoughby. Park at foot of Waterfall on left side of road. Excellent exposure at waterfall of granodiorite and associated aplite and pegmatite dikes. North along road are large exposures which show excellent contact relations between Gile Mountain formation and granodiorite. Calcsilicate minerals occur in many of the Gile Mountain beds.
- 53.7 STOP 6 - LUNCH Stop. Southeast shore of Lake Willoughby. Park on left side of road near restaurant. Contact relations of granodiorite with Waits River formation are clearly seen on huge cliff high on Mt. Pisgah.
- 60.1 West Burke. Straight on U.S. Rt. 5.
- 67.3 Lyndonville. South on U.S. Rt. 5.
- 70.1 Left onto gravel road immediately south of Redwood Motel.
- 70.3 STOP 7 - Turn right at fork. Park in front of large red building. Walk through Power Plant to bed of Passumpsic River where excellent relations are seen between bedding S_1 and S_2 cleavages and folds in Waits River formation.
- 70.5 Return to U.S. Rt. 5. Right toward Lyndonville.
- 72.2 After crossing railroad tracks, sharp right onto paved road along north bank of Passumpsic River.
- 73.8 Right onto paved road to Concord.
- 77.8 STOP 8 - Park in dirt road on left side of road just beyond exposure. S_1 and S_2 cleavages and folds are clearly shown in Gile Mountain formation.
- 78.5 Left onto U.S. Rt. 2.
- 78.8 STOP 9 - Pass cemetery. Park in driveway of Guest House on left side of road. On foot cross pasture to hillside where exposures of Gile Mountain formation show relations between bedding and S_1 and S_2 cleavage folds.
- 83.3 Pass through Concord. Left onto gravel road to Kirby (sign).
- 84.2 STOP 10 - Park on right side of road near crest of grade about 0.1 miles beyond iron-railed bridge. In streambed Meetinghouse slate and Albee formation lithologies are interbedded. "Monroe Line".
- 85.1 Return to U.S. Rt. 2 and bear right onto it.
- 91.7 Amie's Restaurant. Junction of U.S. Rt. 2 and Vt. Rt. 18. Bear sharp left up steep grade.
- 92.2 STOP 11 - Park in Graves schoolyard on right side of road. Exposure of Gile mountain formation which shows bedding, S_1 , S_2 , S_3 cleavages and S_2 folds. Some of the S_2 folds are well developed chevron folds.

END OF TRIP